# Proposed rules remove word "credentials" from Comm 5

Part of a proposed rule change package that went to public hearing in late June replaces the word "Credential" in Comm 5 to "License," or "Certification," or "Registration."

Comm 5 is the Wisconsin code that states the qualifications and responsibilities for obtaining certain licenses, registrations, and certifications. The Safety and Buildings Division works with more than 46,000 people in 57 categories.

When Comm 5 was created in 1996, the word "credentials" was used to describe the set of three types of recognitions administered by S&B. Some people in the plumbing industry objected to the word "credentials," and others preferred one or all the words "license, certification, and registration." S&B received requests that Comm 5 be changed and that is proposed.

For more information, contact Jim Quast, S&B Comm 5 Program Manager, 608-266-9292, jquast@commerce.state.wi.us.

# Rule proposal also relates to combination water distribution and fire sprinkler systems

Part of the proposed Comm 5 rule draft described above also affects the state Plumbing Code, Comm 82-87. S&B proposes adopting NFPA 13D, 1996, the Standard for the Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes. The NFPA 13D standard will provide guidance for plumbers installing "multipurpose" systems in homes. The "multipurpose" system would be defined in the code as a "combined home plumbing/fire sprinkler system."

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## Inside this *WPCR*



Wisconsin Plumbing Codes Report
Safety and Buildings Division, Department of Commerce
Volume 15 No. 8 August 1999

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Fax 414-548-8614
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## Plan Review Scheduling

For plan review scheduling for Plumbing and Buildings, call the S&B office numbers listed above, or contact the email address shown. Fax scheduling is possible. Information about the project will be needed to schedule the plan review. Any of the offices can schedule the first appropriate plan review available statewide.

Plan review for Private Onsite Wastewater Treatment Systems is provided on a first-come, first-served basis. Contact one of the offices for information.

Sample S&B email address: tjoyce@commerce.state.wi.us

### Plumbing Consultants

| | | |
|---|---|---|
| Tom Braun | Hayward | 715-634-3026 |
| Tim Joyce | Madison | 608-825-4724 |
| Don Kay | Green Bay | 920-834-3093 |
| Don Oremus | Pelican Lake | 715-487-6123 |
| Jim Wehinger | Friendship | 608-339-7430 |
| Jim Zickert | Eldorado | 920-872-2656 |

### Plumbing Plan Reviewers

| | | |
|---|---|---|
| Ryan Boebel | Madison | 608-261-6535 |
| Herman Delfosse | La Crosse | 608-789-5535 |
| Wes Grube | Green Bay | 920-492-5613 |
| Dan Kraft | Madison | 608-266-8075 |
| Mary Pfaff | Waukesha | 414-548-8604 |
| Dave Russell | Madison | 608-267-3605 |
| Curt Wendorff | Shawano | 715-526-9056 |

### Plumbing Products Reviewers

| | | |
|---|---|---|
| Mike Beckwith | Madison | 608-266-6742 |
| Dan Jensen | Madison | 608-267-5265 |
| Glen Schlueter | Madison | 608-267-1401 |

### POWTS Plan Reviewers

| | | |
|---|---|---|
| Wes Grube | Green Bay | 920-492-5613 |
| Julia Lewis | Waukesha | 414-548-8638 |
| Pete Pagel | Madison | 608-266-2889 |
| Mary Pfaff | Waukesha | 414-548-8604 |
| Jim Quinlain | Madison | 608-266-3937 |
| Pat Shandorf | Hayward | 715-634-7810 |
| Jerry Swim | La Crosse | 608-785-9348 |
| Keith Wilkinson | Shawano | 715-524-3630 |

### POWTS Wastewater Specialists

| | | |
|---|---|---|
| Heidi Ferguson | Stevens Point | 920-779-4818 |
| Ross Fugill | Shawano | 715-524-3629 |
| Leroy Jansky | Chippewa Falls | 715-726-2544 |
| Carl Lippert | Hayward | 715-634-3484 |
| Karl Schultz | Oshkosh | 920-424-3311 |
| Dennis Sorenson | La Crosse | 608-785-9336 |
| Duane Steiner | West Baraboo | 608-355-3159 |
| Allen Wendorf | Madison | 608-873-5476 |

Direct comments, address, suggestions for articles, etc., to Todd Taylor. Fax 608-264-8795. Telephone 608-267-3606. ttaylor@commerce.state.wi.us/ Madison mailing address above.

The *WPCR* is a monthly publication delivered to about 9,400 people as part of their certification, license, or registration with the Wisconsin Department of Commerce, Safety and Buildings Division. Subscriptions are also available.

SBD 8340P

# Comm 83 revisions forwarded to legislature

by Roman Kaminski, S&B POWTS Program Manager, 715-345-5334, rkaminksi@commerce.state.wi.us

After many months of work and negotiations, in early July the final draft of a proposed revised Comm 83, the Private Onsite Wastewater Treatment Systems (POWTS) code, was forwarded to the state legislature for committee review.

At the time this article was prepared, a hearing on the proposed code had been scheduled for August 18 by Representative DuWayne Johnsrud, Chairman of the Assembly Natural Resources Committee.

Another hearing was being proposed by Senator Alice Clausing, Chairwoman of the Senate Agriculture, Environmental Resources, and Campaign Finance Reform committee. An aide to Clausing was quoted as saying the committee would be scheduling a hearing in early- to mid-September.

The code package that the committees will review includes nine POWTS component manuals. These manuals contain the "prescription" for design, installation, and maintenance of POWTS systems. Five of the component manuals represent the same types of POWTS technologies we see being installed everyday under the current code. The component manuals contain "refinements" that represent

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# Southcentral plumbing inspectors' meeting

The Southcentral Plumbing Inspectors Association will be meeting Wednesday, September 1 in the Town of Windsor Hall.

The meeting will offer 1.5 hours of continuing education credit for UDC Plumbing Inspectors.

For more information, contact the area Safety and Buildings Division Plumbing Consultant Tim Joyce, 608-825-4724, tjoyce@commerce.state.wi.us.

**Subscription requests** and **address changes** can be sent to Material Orders, PO Box 2509, Madison, WI 53701. Fax 608-261-6699. Telephone 608-267-4405.

Subscriptions are $20, payable in advance to the Safety and Buildings Division for 12 monthly issues.

# Combination water distribution and fire sprinkler systems

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**This is not a mandate to install sprinklers in homes.** The proposal provides uniform minimum rules for when a homeowner voluntarily chooses to install a combined home plumbing/fire sprinkler system.

The new definition describes a plumbing water distribution system that supplies water to plumbing fixtures and fire sprinklers, serving both the domestic water needs and the fire protection needs within the one- or two-family dwelling.

This combined system is plumbing by definition in the state statutes. The new rules will provide specifications for plumbers to follow when installing residential sprinklers in homes. People with fire sprinkler licenses or registrations cannot install these combined plumbing systems.

Copies of the proposed rules are available from Roberta Ward, 608-266-8741, rward@commerce.state.wi.us, or on the S&B WebSite, http://www.commerce.state.wi.us/SB-RuleChanges.html.

# Comm 82 proposals ready for hearings

by Lynita Docken, S&B Plumbing Program Manager, 608-785-9349, ldocken@commerce.state.wi.us

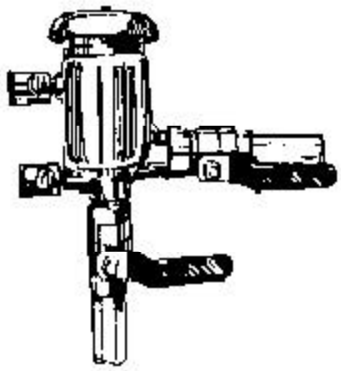
Proposed revisions to Comm 82, the state Plumbing Code, are being readied for public hearings. The hearings are expected to be held in September. The exact dates and places, when available, can be obtained from Roberta Ward, 708-266-8741, rward@commerce.state.wi.us, or on the S&B WebSite, http://www.commerce.state.wi.us/SB-RuleChanges.html.

The Safety and Buildings Division has worked with an advisory Plumbing Code Council to prepare a package containing a numbers of facets:

· *Alternate and experimental system review.* Currently, the statement that "the provisions of this chapter or Comm 84 are not intended to prevent design and use of engineered plumbing systems if the system has been first approved by the department..." is included in Comm 82.20(12). While this section actually refers to engineered systems, the intent is to allow innovative technology and ideas to be used, if the safety and health of Wisconsin's environment and people are protected. The draft proposal includes requirements for the submission of alternate and experimental systems. Alternate approval is issued when a system is found **to meet the intent of the code**. Experimental approval is given when someone would like to install a system **to prove it will meet the intent of the code**. The difference between the Safety and Buildings Division engineered system review and the proposed alternate system review is that the alternate could be installed statewide after approval. Engineered systems are reviewed on an individual basis.

· *Defining health care facility.* The definition of health care facility would change to delete outdated names insert current names of facilities. Included in the draft health care facility definition are hospital, nursing home, community-based residential facility, sanitarium, inpatient hospice where only respite care is provided, medical laboratory, and office or clinic that includes an operatory for dentists or doctors.

· *Cross connection control device testing and tagging requirements.* Under the draft rules, results from a cross connection control device test must be forwarded to S&B **and** the local water purveyor. Currently the requirement is that the test be sent to S&B. Also, under the proposal, identification tags must be attached to reduced pressure principle backflow preventers, reduced pressure detector backflow preventers, pressure vacuum breaker assemblies, and back siphonage backflow vacuum breakers.



· *Swimming pool discharge locations.* The Public Swimming Pool Advisory Code Council asked that acceptable discharge locations for swimming pools be included in Comm 82.33. A new table, Comm 82.33-3, would illustrate the designations for swimming pool backwash and drain wastewater discharge. One change would allow the discharge of swimming pool wastewater to a private onsite wastewater treatment system, if the system is designed to treat and disperse the wastewater.

· *Elliptical pipe for storm.* Comm 82.36 will permit installation of, and will include a table for sizing of, elliptical reinforced concrete pipe.

· *Storm system sizing.* Much like water distribution requirements in Comm 82.40, the proposed rules include performance requirements for storm system sizing. A baseline hydraulic load of 3.7 inches per hour of rainfall will be the "yard stick" that designers can use to design performance-based storm systems. The draft also allows S&B to allow designers to vary the slope on storm sewers outside of prescriptive requirements in tables Comm 82.36-1 through 82.36-4.

· *New and updated standards.* Many new standards would be adopted by the code. The Canadian standard for cross connection control devices is one example. Another is adoption of the ASSE 1056 standard (back siphonage vacuum breaker), applying to pressure vacuum breakers that may be installed indoors. Other product standards would be updated to current versions.

· *Vacuum breaker installation.* A third requirement for installation of vacuum breakers would be added. Currently, problems are created when an aspirator is added to an open-ended pipe. Toxic chemicals could be backsiphoned into a water distribution system from a chemical system. The proposed requirement would require that a vacuum breaker be installed above the highest point of an injection or aspiration port.

· *Safing.* The proposal provides instructions for safing requirements. Site-constructed shower stalls and shower rooms would be protected with safing to six inches above the floor and six feet at the corners of the room or stall. Fixtures that require safing will include floor drains, floor setting service sinks, sunken bathtubs, receptors, or other similar fixtures. The safing would extend 30 inches from the fixture unless there is a wall within 18 inches of the fixture.

· *Shower installation requirements.* The water supply at the shower valve and to the shower head would need to be attached to the structure so as to support the valve and piping.

· *Hot water temperatures for health care facilities.* The maximum hot water temperature supplied to fixtures in health care facilities is addressed by the draft in several ways. The first is that the maximum distribution system temperature is increased to 140 degrees. Bacterial growth and possible infection can occur under low temperatures in a water supply system. The second health care issue requires the maximum temperature to fixture fitting outlets accessible to patients located in health care facilities shall not exceed 115 degrees. Patient showers, baths, and therapeutic equipment in hospitals, community-based residential facilities, inpatient hospices, and nursing homes would be required to have faucets or control valves that close completely when outlet water temperature exceeds 115 degrees.

Information on administrative code packages and hearings is at http://www.commerce.state.wi.us/SB-RuleChanges.html.

# Comm 83 forwarded to legislature

continued from page 3

advances made in the industry since the current code was last significantly revised in 1980.

The other four component manuals represent some new (to Wisconsin) technologies. The manuals cover the design, installation, and maintenance of intermittent sand filters (ISFs), two types of Recirculating Sand Filters (RSFs), and drip line tubing ,which typically disperses effluent in the soil vegetative zone.

Future issues of the *WPCR* will contain information on the outcome of the legislative hearings and the next steps in the Comm 83 process.

If you are interested in reviewing the code package that was submitted to the legislature, all of the documents are available on the S&B WebSite. The address is: http://www.commerce.state.wi.us/SB-COMM83RevisionsAndArticles.html. Paper copies are available from Roberta Ward, 608-266-8741, rward@commerce.state.wi.us.

See page 7 for an article about the Comm 83-related Memorandum of Understanding between the Safety and Buildings Division and state Department of Natural Resources.

# Plumbing continuing education classes

Beginning this December, the locations and availability of plumbing classes offered by the Safety and Buildings Division will be changed from previous years. Classes will include offerings for all types of plumbing licenses, registrations, and certifications. S&B will offer three-hour class sessions in the morning and three-hour class sessions in the afternoon. It will be possible for some license categories to receive six hours of continuing education credit. Afternoon **general plumbing** classes will be a repeat of morning classes. Note that classes with the same name, described below as offered for different sets of card-holders, are the same classes.

| **Month** | **Location of Seminars** |
|---|---|
| December | Madison; Stevens Point; Rhinelander |
| January | Hayward; Eau Claire; Platteville |
| February | Green Bay; Fond du Lac; Mauston; Pewaukee |

**Courses being offered for Restricted Service Plumbers, CST's, and POWTS Inspectors**

1. Pressure distribution, and pump wiring and pump selection.
2. Soil evaluation on difficult sites, Comm. 83.09(2)(b) petitions, and POWTS questions and answers.

**Course being offered for Restricted Appliance Plumbers**

1. Water treatment and penetrations of fire rated assemblies.

**Courses being offered for "Full" Licensed Plumbers**

1. ADA for plumbers and discussions on common dwv installations.
2. Water treatment and penetrations of fire rated assemblies.
3. Pressure distribution, and pump wiring and pump selection.
4. Soil evaluation on difficult sites, Comm. 83.09(2)(b) petitions, and POWTS questions and answers.

**Courses being offered for UDC Inspectors**

1. Americans with Disabilities Act info for plumbers and discussions on common dwv installations.
2. Water treatment and penetrations of fiire rated assemblies.

There will be a mail-in preregistration form appearing in the September *WPCR* that can be torn out, filled in, and mailed.

More information will appear in next month's *WPCR*. Questions? Contact Tom Braun at 715-634-3026, or Mary Pfaff at 414-548-8604.

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# Safety and Buildings-related codes are on the Internet
# http://www.legis.state.wi.us/rsb/code/comm

Not all codes are available electronically. Paper copies may be purchased from Document Sales, 800-362-7253, for credit card purchases, or 608-266-3358.

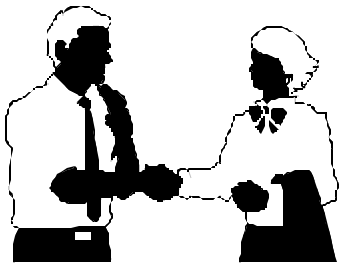
# MOU agreement related to POWTS jurisdictions

A Memorandum of Understanding (MOU) related to the Comm 83 code change proposal has been agreed to between the state Department of Commerce and the Department of Natural Resources. The MOU is to resolve jurisdictional issues raised by staff of the two departments during discussions concerning revision of Comm 83, the Private Onsite Wastewater Treatment Systems (POWTS) code. The Safety and Buildings Division is part of the Department of Commerce.

See page three of this *WPCR* for more information on the Comm 83 proposed revisions.

The "Purpose" statement clearly defines the intent of the MOU: "The purpose of this Memorandum of Understanding (MOU) is to delineate the responsibilities for effective administration by (DCOMM) and (DNR) of onsite sewage systems (aka -private sewage systems, private onsite wastewater treatment systems (POWTS), soil absorption systems, onsite wastewater soil infiltration systems) pursuant to each agency's authority under chs. 145, 281, 283, and 160, Wis. Stats. This MOU establishes interim responsibilities and actions regarding the regulation of onsite sewage systems and delineates future actions and responsibilities for purposes of implementing a long term approach."

Administrative rule and statute changes must be sought to complete the jurisdictional agreement. Proposed changes to chapter 145, Wis. Stats., the Comm 83 code package, and proposed revisions to NR 200 and NR 206 are all part of this effort.



Because the two agencies' processes to achieve these changes vary, an interim agreement will be followed until such time as necessary rule and law changes are completed.

The most significant feature of the MOU is the identification of when a POWTS system will fall solely under Commerce or DNR jurisdiction, and under what circumstances joint review will occur. Jurisdiction will be based on design wastewater flow and type of wastewater to be generated.

Copies of the MOU document can be obtained from Roberta Ward, 608-266-8741, rward@commerce.state.wi.us, or can be downloaded from the S&B WebSite, http://www.commerce. state.wi.us/SB-COMM83RevisionsAndArticles.html.

Questions about the MOU contents can be addressed to Roman Kaminski, S&B POWTS Program Manager, 715-345-5334, rkaminski@commerce.state.wi.us, or Roger Larson of the DNR, 608-266-2666, larsor@dnr.state.wi.us.

State administrative codes and the code update service may be purchased by contacting state Document Sales, 608-266-3358, or 800-362-7253, for credit card purchases. ❖ ❖ ❖ ❖ ❖ ❖

# Federal rules on contamination of water distribution systems stress decision-making processes

by Megan Matthews of the Wisconsin DNR, 608-266-8172, matthm@dnr.state.wi.us

Sweeping amendments were made to the federal Safe Drinking Water Act (SDWA) in 1996 which brought about changes to the way the federal Environmental Protection Agency (EPA) will decide which contaminants to regulate, and how to regulate them, with water distribution systems of all sizes.

New criteria guiding EPA's decisions on which contaminants to regulate include information about a contaminant's health effects, how often it occurs in public water systems, and how much systems can reduce the risks it poses. The SWDA amendments also call for more research on health effects of drinking water contamination, especially on "sensitive" populations such as children and cancer patients. For regulated contaminants, the EPA will look at risk prioritizing, cost benefit analysis, and ways to make compliance for small systems more accessible.

In addition, by early 2001 the amendments call for all systems except transient noncommunity water systems to have a "certified operator" provide the required sampling, reporting, and operational support in meeting SDWA regulations. Currently, some licensed plumbers and pump installers contract with small systems to do this. In the future it will likely be required that these "certified operators" attended mandatory training and passed a written examination.

Some other SDWA regulatory improvements:

– With the amendments, the EPA has flexibility to decide whether or not to regulate a contaminant after completing a review of at least five contaminants every five years. Previously, the EPA was required to regulate an additional 25 contaminants every three years.

– The new provisions make risk prioritizing an important part in selecting contaminants to regulate. EPA will work in partnership with states, water systems, environmental and public health groups, the scientific community, and the public to identify unregulated contaminants that are most common in drinking water, present the most serious threat to health, and can be most productively and effectively controlled.

– For the first time, a national occurrence database covering both regulated and unregulated contaminants will be established. The principal use of the database will be for EPA to make determinations on whether or not to regulate a certain contaminant. The occurrence database will also improve public understanding and participation in drinking water protection because data should be available to the public in readily accessible form.

– For all future drinking water standards, EPA is to conduct a thorough cost-benefit analysis and provide comprehensive, informative, and understandable information to the public.

– To ensure adequate scientific information is developed to support the new requirements, money is to be set aside annually from the State Revolving Fund (a community assistance piece of the 1996 amendments) for top priority health effects research.

– EPA is to identify technologies that comply with standards and are specifically affordable for smaller systems. Previously, in setting standards based on technology that larger systems could afford, financial realities of small system economics were often overlooked. If technologies do not exist for small systems, a "variance" technology must be identified.

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# Event Calendar

Aug. 24, 1999 - Tuesday - **HVAC Code Council** - 8:30 a.m. to 2 p.m. - WHEDA Building, Rm. 3B, 201 W Washington Ave., Madison - Jean MacCubbin, 608-266-0955, jmaccubbin@commerce.state.wi.us

Aug. 26, 1999 - Thursday - **Structural Review Council** - 9 a.m. to 3 p.m. - WHEDA Building, 1st Floor Conference Rm., 201 W Washington Ave., Madison - Sam Rockweiler, 608-266-0797, srockweiler@commerce.state.wi.us

Aug. 31, 1999 - Tuesday - **Energy Conservation** - 8:30 a.m. to 3 p.m. - WHEDA Building,Rm. 3B, 201 W Washington Ave., Madison - Diane Meredith, 608-266-8982, dmeredith@commerce.state.wi.us

Sept. 2, 1999 - Thursday - **Plumbing Advisory Code Council** - 9 a.m. to 3 p.m. - WHEDA Building, Rm. 3B, 201 W Washington Ave., Madison - Jean MacCubbin, 608-266-0955, jmaccubbin@commerce.state.wi.us

Contact the listed Code Consultant for information on the meetings agenda, locations, etc. If you have questions concerning technicalities of the codes which are the subjects of the meetings, contact consultants and reviewers listed on page 2 of this *WPCR*.

Sept. 9, 1999 - Thursday - **Commercial Building Code Council** - 9 a.m. to 3 p.m. - UW Madison Ag Research Station, 8502 Mineral Point Rd, Verona - Sam Rockweiler, 608-266-0797, srockweiler@commerce.state.wi.us

Sept. 23, 1999 - Thursday - **HVAC Code Council** - 8:30 a.m. to 2 p.m. - WHEDA Building, Rm. 3B, 201 W Washington Ave., Madison - Jean MacCubbin, 608-266-0955, jmaccubbin@commerce.state.wi.us

Sept. 28, 1999 - Tuesday - **Energy Conservation** - 8:30 a.m. to 3 p.m. - WHEDA Building, Rm. 3B, 201 W Washington Ave., Madison - Diane Meredith, 608-266-8982, dmeredith@commerce.state.wi.us

Oct. 13, 1999 - Wednesday - **Multifamily Dwelling Code Council** - 9:15 a.m. to 3 p.m. - Wisconsin Builders Association, 4868 High Crossing Blvd, Madison - Sam Rockweiler, 608-266-0797, srockweiler@commerce.state.wi.us

Oct. 14, 1999 - Thursday - **Fire Safety Code Council** - 9 a.m. to 3 p.m. - WHEDA Building, Rm. 3B, 201 W Washington Ave., Madison - Duane Hubeler, 608-266-1390, dhubeler@commerce state.wi.us

## Dealing with possible contamination of water distribution systems

continued from previous page

– The amendments extend the deadline for systems to comply with new regulations from 18 months to three years.

– EPA is required to conduct additional research and risk assessment on arsenic, radon, cryptosporidium and sulfate.

For more information about the 1996 amendments to the Safe Drinking Water Act, call the Safe Drinking Water Hotline at 1-800-426-4791, or visit EPA's website at http://www.epa.gov/OGWDW/sdwa/sdwa.html#sdwa. For information on Wisconsin's drinking water program, visit the Department of Natural Resources' website at http://www.dnr.state.wi.us/org/water/dwg/index.htm.

Information regarding the DNR Certified Operator program is available through Peggy O' Donnell, 608-266-0498, or Don Swailes, 608-266-7093.

**Questions about your continuing education credits?**

Check the mailing address back page for a printed line giving your status for plumbing-related S&B certifications, licenses, and registrations. Or, call the Credentialing Section, 608-261-8500.

# There are limitations on two applications of air gaps

by Jim Wehinger, S&B Plumbing Consultant, 608-339-7430, jwehinger@commerce.state.wi.us

There are two applications for air gaps. One is the air gap used for indirect/local waste piping in drain systems. The other is the air gap used in water supply systems. The limitations for each are different do not confuse the two!

### Air Gap - Drain Systems

Comm 82.11(4) states "Air gap, drain system" means the unobstructed vertical distance through free atmosphere between the outlet of indirect or local waste piping and the flood level rim of the receptor into which it discharges.

So, with waste piping one inch or less in diameter - The distance between the end of the waste pipe and the flood rim of the receptor shall not be less than two times the diameter of the waste pipe.

With waste piping greater than one inch in diameter - The distance between the end of the waste pipe and the flood rim of the receptor shall not be less than two inches.

In any case, regardless of whether the end of the waste pipe is cut square or at an angle, the air gap is the distance between the lowest end of the waste pipe and the flood level rim of the receptor.

### Air Gap - Water Supply Systems

Comm 82.11(5) states "Air gap" in the water supply system means the unobstructed vertical distance through the free atmosphere between the lowest opening from any pipe or faucet supplying water to a tank or plumbing fixture and the flood level rim or spill level of the receptacle.

Therefore, a pipe/spout which terminates with its outlet above the flood level rim of a receptacle/ fixture (1) Shall terminate a minimum of one inch above the flood level rim of the receptacle/fixture; or, (2) Shall terminate a minimum distance of two times the diameter of the effective opening from the end of the pipe/spout to the flood level rim of the receptacle/fixture.

In any case, regardless of whether the end of the pipe/spout is cut square or at an angle, the air gap is the distance between the lowest end of the pipe/spout and the flood level rim of the receptacle/fixture.

The following water supply air gap, although the least desirable, is acceptable to the ANSI 112.1.2. standard. This air gap is seldom used because it is complicated.

A pipe/spout which terminates with its outlet completely below the flood level rim of a receptacle/ fixture:

- Must have an opening in the receptacle/fixture which discharges to the atmosphere through an air gap;
- This air gap must be located as close as possible to the receptacle/fixture;
- The rate of discharge through this opening as compared to the rate of water entering the receptacle/fixture establishes a "spill level," which is the level at which the water entering the receptacle/ fixture seeks a balance and does not raise any higher. (A level is established where the flow of water entering equals the flow of water exiting.);
- Therefore, the distance between this established "spill level" and the end of the lowest water supply pipe/spout is the air gap;
- The minimum air gap ("Y") is the distance between the supply pipe/spout and the "spill level" established in the receptacle/fixture;
- The "spill level" shall be a distance no greater than one half of the distance measured as "Y." Therefore, the air gap between the supply pipe/spout and the highest portion of the opening which discharges to the atmosphere shall be a distance no greater than one and one-half "Y;"
- However, the measurement for this air gap could be as much as three times the diameter of the pipe/spout depending upon the number of near walls:

The distance of a near wall is a relationship to the diameter of the pipe/spout and the measurement from the wall to the closest side of the pipe/spout.

(a) If there is one near wall, and the distance between that near wall and the closet edge of the

continued on next page

# When and where can you use pipe saddles?

by Jim Wehinger, S&B Plumbing Consultant, 608-339-7430, jwehinger@commerce.state.wi.us

The plumbing code limits the use of pipe saddles: Comm 82.40(8)(h), Fittings and connections. The drilling and tapping of water supply piping shall be prohibited except for, 1. Corporation cocks for a water service or a private water main; and, 2. Self-tapping valves which serve individual plumbing appliances.

Comm 84.30(5)(d), Pipe saddles. Pipe saddles shall be installed in accordance with the instructions of the saddle manufacturer and the following limitations:

1. Pipe saddles may be installed on private interceptor main sewers, building sewers, underground drain and vent pipe and tubing, and where otherwise approved by the department;
2. A saddle for drain piping shall have a radius in accordance with Comm 82.30(8)(a);
3. The material of the saddle shall be compatible with the materials of the pipes which are to be connected to the saddle;
4. The hole in the pipe which is to receive the saddle shall be drilled or cored to match the saddle outlet;
5. Straps or clamps which is to wrap around the pipe and saddle shall be provided by the manufacturer of the saddle;
6. Saddles shall be installed with straps or clamps which wrap around the pipe and saddle; and,
7. Proper hangers or bedding shall be provided to maintain alignment between the opening in the pipe and the saddle.

## Summary

Comm 82.40(8)(h)1 and 2 limits the use of saddles on underground water piping to corporation cocks, and on water piping above ground to the self-tapping type for individual appliances.

Comm 84.30(50(d)1, limits the use of saddles to underground drains and sewers.

Therefore, for installations other than those listed, the use of pipe saddles on above-ground water piping is prohibited.

To use saddles on above-ground water piping, Safety and Buildings Division approval must be obtained prior to the installation. Plans, specifications, and a $60 fee must be submitted to the S&B for review and approval prior to the installation. The approval is granted on a case by case basis. For information on, call Mike Beckwith, S&B Plumbing Products Reviewer, 608-266-6742, mbeckwith@commerce.state.wi.us.

# Air Gaps

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supply pipe/spout is greater than three times the diameter of the supply pipe/spout, then the minimum air gap is two times the diameter of the supply pipe/spout;

(b) If there is one near wall, and the distance to the closet edge of the supply pipe/spout is less than three times the diameter of the pipe/spout, then the minimum air gap is three times the diameter of supply pipe/spout;

(c) If there are two near walls, and the distance between the near walls and the closet edge of the supply pipe/spout is greater than four times the diameter of the supply pipe/spout, the minimum air gap is two times the diameter of the supply pipe/spout;

(d) If there are two near walls, and the distance to the closest edge of the supply pipe/spout is less than four times the diameter of the supply pipe/spout, then the minimum air gap is three times the diameter of the supply pipe/spout.

(It has been determined that more than two near walls generally do not have an effect requiring an increase of the air gap to more than three times the diameter of the supply pipe/spout.

In any case, regardless of whether the end of the pipe/spout is cut square or at an angle, the air gap is the distance between the lowest end of the pipe/spout and the "spill level" of the receptacle/fixture.

WPCR - August
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